

ABSTRACT OF THE DISCLOSURE

An impeller, a pressure generator using such an impeller, and a pressure support system and method using such a pressure generator to deliver a flow of breathing gas to a patient is disclosed. The impeller enables a pressure of a flow of breathing gas delivered by a pressure support system to a patient to remain substantially constant despite variations of the output flow rate. The impeller includes a plurality of impeller blades disposed on a face of the impeller body with an inlet area between each pair of adjacent blades being substantially equal a corresponding outlet area for each pair of adjacent blades.